NADY SYSTEMS

DW-44

DIGITAL WIRELESS SYSTEM

4 TRANSMITTERS

OWNERMANUAL

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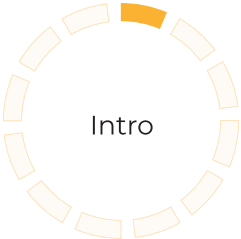

Thank you for purchasing the NADY DW-44 Digital Wireless Microphone System. Your system is loaded with top professional operating features and offers the best performance and price value available in digital wireless. With 24-bit digital audio conversion technology, low latency, and clear channel operation on the UHF 900MHz band, this unit is simple to operate and provides interference-free performance for any application or locale.

This booklet provides instructions for the operation of your DW-44 for either a handheld or lapel/ headset microphone transmitters (depending on your configuration). Please read the instructions completely before operation. This manual will show you step by step how to operate your new system. After reading the receiver instructions, turn to the section of the booklet that covers the type of transmitter used with your new system. Each section will provide you with detailed operating instructions, as well as some useful tips to get the best operation out of your system. Also included in this manual are system specifications, a Precautions & Troubleshooting section, and where/ how to receive Nady customer service support.

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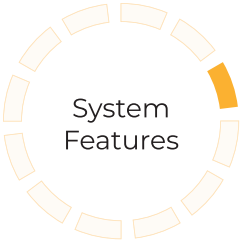


RECEIVER

The Nady DW-44 includes several user-friendly features...

- Professional 24-bit digital conversion technology for exceptional audio clarity with a transparent frequency response across the entire audible range(20Hz to 20kHz)
- Clear signal operation in the 900 MHz Band, completely free from TV interference
- Reliable long range operation (up to 300 feet line-of-sight)
- Digital transmission virtually eliminates interference and noise from nearby obstacles
- Rugged metal housing for long-term durability
- Front panel AF / RF LED's for monitoring incoming RF signal and audio levels
- Backlit display indicating pre-set operating frequency
- Power switch and volume controls
- Back Panel: Four balanced XLR microphone level outputs, a single MIXED SUM adjustable ¼" LINE LEVEL output, DC input jack and 2 BNC antenna jacks
- Externally powered with the included switching 110V-220V AC / 13.5V DC @ 400mA regulated adapter
- Easy Plug-and-Play set up, just turn the system on and it's set to go!

TRANSMITTERS

(DEPENDING ON YOUR CONFIGURATION)

- Digital HT™ handheld transmitter features a unidirectional neodymium dynamic cartridge for a clear, flat frequency response, maximum feedback rejection and minimal handling noise
- Digital LT™ bodypack transmitter features a compact housing with belt clip, durable attached external antenna, and a unique locking 3.5mm mini jack for connecting lapel or headset microphones

Take your system components out of the box and let's get started!

Secure the two antennas to the receiver. The receiver has both front and back antenna placement capabilities. If you choose to mount the antennas to the front of the unit, please use the included BNC extension cables.

Take all of the transmitters out of the box and insert two AA batteries into each. If you have any bodypack transmitters in your system, now's the time to attach the included lapel and/or headset microphone cables to each transmitter using the 3.5mm connector.

Using the included AC power supply, plug one end into the receiver's back panel power input jack and the other end into a wall outlet.

Connect the audio output(s) of the receiver to your mixer or powered amplifier (PA). [CAUTION: First make sure all four volume knobs are turned down on the front panel of the receiver]. Turn on the receiver using the front panel power button.

Switch on your transmitters one by one. Each transmitter's red LED will flash once when you flip the power switch on, confirming that your batteries are in good health and the transmitter is powered on. When paired, each of the 4 red LED lights on the front panel of the receiver will light up correspondingly.

Your system is now ready to use. If using the line-level MIX/SUM output of the receiver, the individual volume knobs on the receiver's front panel will control the volume of each channel. If using the individual microphone-level XLR outputs of the receiver, volume control is achieved on your mixer/PA system.

DW-44

QUAD RECEIVER

POWERING THE RECEIVER

Plug in the provided AC/DC adapter [1] to the DC input jack on the back of the receiver. Then plug in the power supply to an AC outlet. Press the power button [2] once to turn on the receiver. The backlit display [3] will light up indicating that the receiver is operational.

CONNECTING THE AUDIO OUTPUT

The DW-44 has two types of outputs, an adjustable line level unbalanced LINE/MIX ¼" output [4] comprising a mix of all four channels, and four fixed microphone-level balanced XLR outputs [5]. Depending on your mixer/PA setup, you can use either the unbalanced LINE/MIX ¼" output, or the balanced XLR outputs at any time. However please note that the front panel's volume controls [6] work only for the unbalanced LINE/MIX ¼" output, whereas the balanced XLR outputs are set at a non-adjustable microphone level, similar to hardwired microphones. If you plan on using the XLR outputs, be sure to connect the other end to the microphone-level inputs of your mixer/PA system.

ANTENNAS

The DW-44 Receiver includes 2 antennas [7]. They must be connected to the receiver before operation. Optimal antenna positioning is at 45 degrees from the receiver and at 90 degrees from each other. For maximum range, it is always best to maintain a line-of-sight (no obstructions) between the receiver antennas and the transmitter at all times whenever possible.

LED INDICATORS

The DW-44 receiver features both red RF (Radio Frequency) LED's [8] and green AF (Audio Frequency) LED's [9] for each transmitter. The red LED's light up when the corresponding transmitter is turned on and in usable range. The green LED's light up in series for each channel indicating the audio level from the microphone.

DW-44

QUAD RECEIVER

[1] Power Supply

[2] Power Button

[3] Backlit Display

[4] Line/Mix ¼" Output

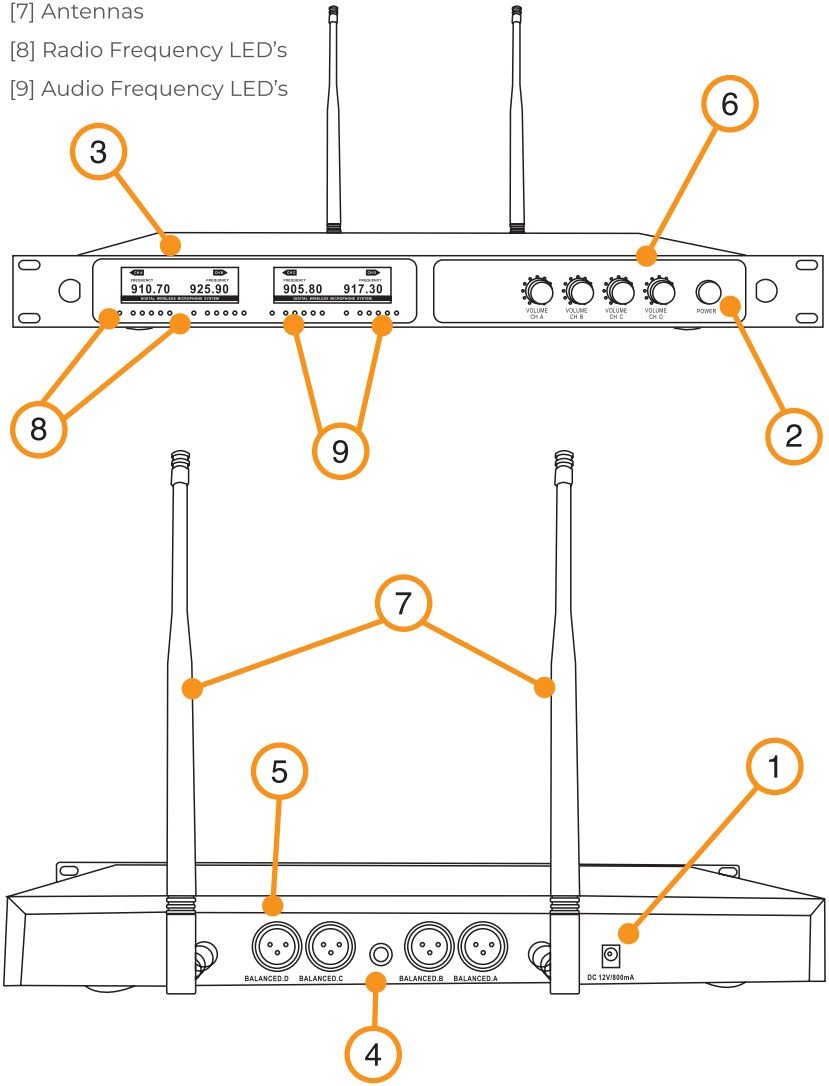
[5] Microphone XLR Outputs

[6] LINE/MIX Volume Controls

[7] Antennas

[8] Radio Frequency LED's

[9] Audio Frequency LED's



Digital HT Operation

DIGITAL HT™

HANDHELD TRANSMITTER

BATTERY INSTALLATION

Unscrew the battery compartment cover [10] and insert 2 fresh AA alkaline batteries into the battery compartment [11], while observing the correct polarity. Screw the cover back on to the microphone. Fresh alkaline batteries can last up to 11 hours of continuous use, but in order to ensure optimum performance, it is recommended that you replace the batteries after every 8-10 hours of use.

POWERING ON THE DIGITAL HT™ TRANSMITTER

Turn on the DIGITAL HT™ by sliding the power switch [12] upward. The battery indicator LED [13] will give a single quick flash, indicating the transmitter is powered on and ready for operation. In the case of a low battery, the LED will stay on continuously, indicating that the batteries should be replaced with fresh ones. To preserve battery life, turn the transmitter off when not in use.

USING THE DIGITAL HT™ TRANSMITTER

The microphone is now ready for use. The grille [14] contains an internal windscreen to prevent plosives (vocal pops from pronouncing B's & P's) and sibilance (harsh S's, T's & Z's) while speaking or singing. For optimum results, the DIGITAL HT™ microphone should be held directly in front of the mouth at a distance of between 1 and 3 inches.

***TIP:**

The DIGITAL HT™ Microphone contains a moving coil element and unidirectional pickup pattern which allows for very loud vocals without distoring the signal and is best suited for a close mike-to-source application.

DIGITAL HT™

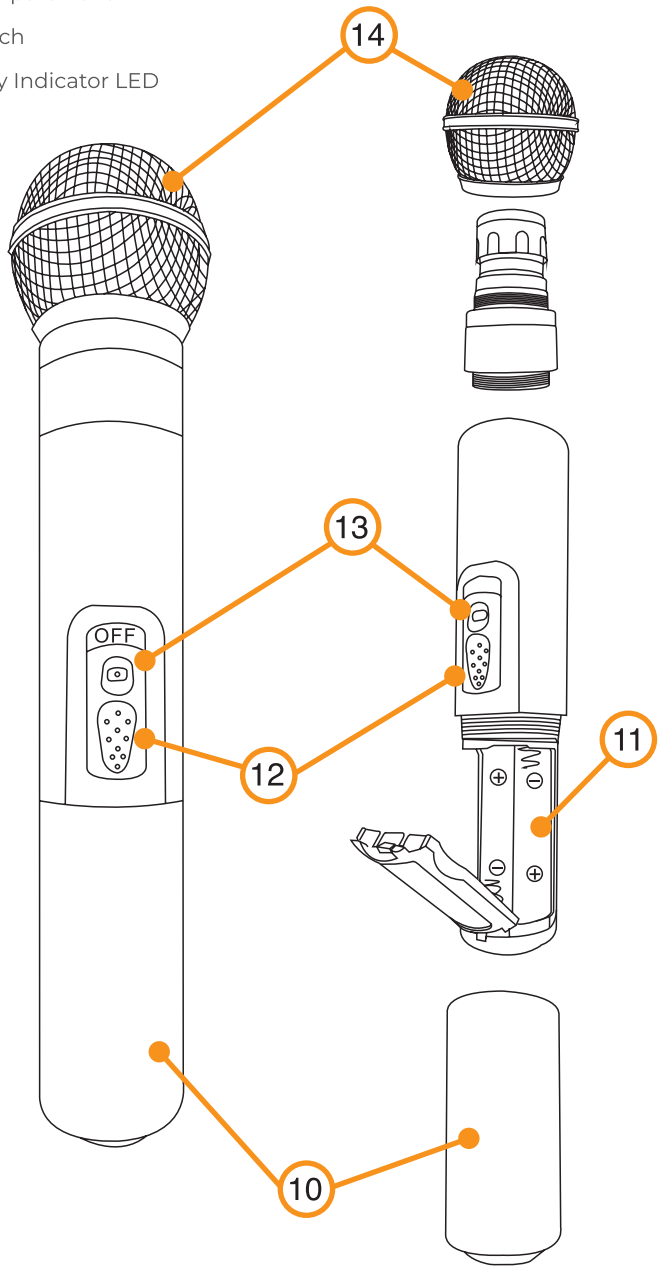
[10] Battery Compartment Cover

[11] Battery Compartment

[12] Power Switch

[13] Low Battery Indicator LED

[14] Grille



Digital LT Operation

DIGITAL LT™

BODYPACK TRANSMITTER

BATTERY INSTALLATION

Open the hinged battery compartment door [15] and insert 2 fresh AA alkaline batteries while observing the correct polarity. Fresh alkaline batteries can last up to 11 hours in use, but in order to ensure optimum performance, it is recommended that the batteries be replaced after 8-10 hours.

CONNECTING THE LAPEL/HEADSET

The DIGITAL LT™ is equipped with a 3.5 mm locking jack [16] for connecting the lapel or headset microphone to the transmitter, depending on the configuration purchased. [Note: Use only NADY brand lapel or headset microphones with your DIGITAL LT™ transmitters]. To attach the microphone cable to the DIGITAL LT™, first firmly insert the 3.5mm plug into the transmitter jack, then turn the slip ring on the plug clockwise to thread it on the jack of the transmitter (be careful not to over tighten).

POWERING ON THE BODYPACK TRANSMITTER

Turn on the DIGITAL LT™ by sliding the power switch [17] to the ON position. The battery indicator LED [18] will give a single quick flash, indicating the transmitter is powered on and ready for operation. In the case of a low battery, the LED will stay on continuously, indicating that the batteries should be replaced with fresh ones. To preserve battery life, turn the transmitter off when not in use.

USING THE DIGITAL LT™ TRANSMITTER

The microphone is now ready to use. Slip the transmitter into a pocket or use the belt clip [19] to secure it to your clothes. Both microphones are equipped with an external windscreen to prevent plosives (vocal pops from pronouncing B's & P's) and sibilance (harsh S's, T's & Z's) while speaking or singing.

***TIP:**

The lapel microphone features a capacitor type element and omnidirectional polar pattern, which allows for the pickup of very subtle audio signals. Do not place the element too close to the mouth - a distance of about six inches usually works best.

DIGITAL LT™/HM™

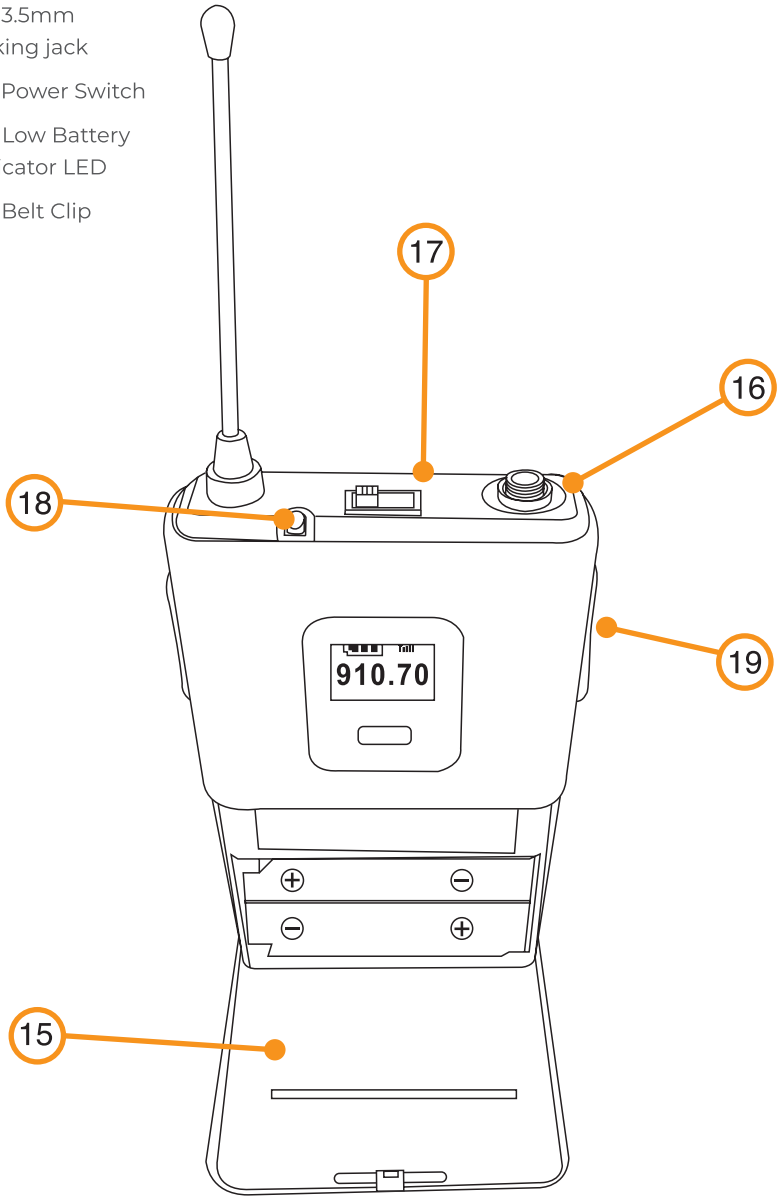
[15] Hinged Battery Compartment Door

[16] 3.5mm locking jack

[17] Power Switch

[18] Low Battery Indicator LED

[19] Belt Clip



PRECAUTIONS & TROUBLESHOOTING

MICROPHONE PLACEMENT

Care should be taken in regards to microphone placement to ensure the best sound quality and so that acoustic feedback (howling and screeching) is avoided. Also note the pickup pattern characteristics of the microphone selected:

Omnidirectional microphones pick up sound equally from all directions and are prone to feedback if not used carefully. Unidirectional microphones are more resistant to feedback and are better at picking up sound sources that are directly in front of them. Microphones that are farther from the sound source, such as lapels, are typically omnidirectional and require more gain and thus are also more prone to feedback than unidirectional microphones, such as handheld and some headset models.

***NOTE:**

Each transmitter corresponds to a specific channel on the receiver. These receiver channels cannot receive signals from two or more transmitters on the same frequency simultaneously.

NO OR LOW AUDIO

If you are not getting audio through the system, and you have confirmed your amplification system is working properly, check all connections and settings as well as transmitter battery life and polarity. The receiver's unbalanced MIX output is adjustable so make sure the receiver's volume controls are set properly.

USEFUL TIPS

**BE AWARE, The DW-44 is a fixed frequency system. This means that the frequencies of each of the individual receivers, as well as the transmitters, are static, and cannot be changed. When preparing for an event in a public space, to avoid potential interference, first confirm there are no other wireless systems operating in the immediate vicinity with the same frequencies as your DW-44. The receiver antennas should be kept away from any metal surfaces whenever possible as they can reflect away or shield the incoming RF signal.

If the receiver volume control (¼" unbalanced LINE/MIX output) is set too high, it may overdrive the input of the mixer/PA, causing distortion. Conversely, if the output is set too low, the overall signal-to-noise ratio of the system will be reduced, causing noticeable hiss. If this occurs, adjust the output level of the receiver so that the highest sound pressure level going into the microphone transmitter causes no input overload in the mixer, but permits the mixer level control to operate in the normal range (not too high and not too low). Doing this will provide the optimal signal-to-noise ratio.

Make sure to insert the batteries according to the polarity clearly marked on the transmitter. Use only new AA alkaline or fully charged NiMH batteries. Do not use "general purpose" carbon batteries. When batteries are weak, replace both of them at the same time. Position the receiver so that there is the least possible obstructions between its antennas and the transmitter. Line-of-sight is best!

For best operation, the transmitters and the receiver should never be closer than 3ft. (1m) as that may overload the receiver's input circuitry and cause interference. The receiver should be placed at least 3ft. (1m) above the ground and 3ft. (1m) away from a wall or metal surface. Try to keep the receiver's antennas and the transmitters away from RF noise sources such as motors, automobiles, neon lights, signal processors, computers, as well as large metal objects.

If rack-mounting the receiver, keep away from heat sources such as amplifiers and always allow enough space between rack units for adequate airflow and heat dissipation. Be sure to position the receiver in the rack so that the antennas can be optimally adjusted as described in part 3 of the Receiver Operation section of this manual.

Turn all transmitters off when not in use. For longest life, remove the batteries if the system is not to be used for a long period of time.

SPECIFICATIONS

OVERALL SYSTEM PERFORMANCE

Frequency Response :	20Hz ~ 20,000Hz +/-3dB
Dynamic Range :	120dB (A-weighted)
Total Harmonic Distortion :	<0.1%
Latency :	3ms (48kHz Sample Rate)
RF Carrier Frequency Range:	Selected frequencies between 902MHz and 928MHz
Frequency Stability :	+/-20PPM, PLL controlled
Modulation :	DQPSK
Operating Range :	Up to 300ft. typical (depending on site conditions); optimum line-of-sight

DW-44 RECEIVER

Reception :	External 8.5" (21.5cm) Dual detachable rear-mount / Optional front-mount antennas
Receiver Sensitivity :	-94dBm
Connectors :	1/4" (6.35mm) Unbalanced phone jack (316mV/no load) XLR Balanced output (+/-12mV/600Ω load)
Unwanted Signal Rejection :	60dB Image and spurious
Power Requirements :	DC 12V Regulated @ 800mA
DC input :	2.1mm jack
Weight and Dimensions :	3.2lbs (1,460g) 19"(L) X 7.25"(W) X 1.25"(H)

DIGITAL HT™/DIGITAL LT™ TRANSMITTERS

RF Power Out :	+13dBm, (50mW maximum allowed by FCC)
RF Spurious Emissions :	< –50dB
Audio Inputs :	Digital HT™ Integral neodymium dynamic cartridge Digital LT™ 1/8" (3.5mm) locking mini-jack, for headset or lapel Mic
Weight and Dimensions :	Digital HT™ 0.6lbs (272g) / 9.25"(L) X 2"(diameter) Digital LT™ 0.15lbs (68g) / 2.5" X 4.25" X 0.5"
Battery Type :	2 x AA Alkaline
Battery Life :	Up to 11 Hours

***NOTE:**

Specifications subject to change at any time without prior notice for purposes of product improvement.

WARNING: The FCC mandates that the following information be provided to all users of wireless equipment:

CONSUMER ALERT

Most users do not need a license to operate this wireless microphone system. Nevertheless, operating this microphone system without a license is subject to certain restrictions: the system may not cause harmful interference; it must operate at a low power level (not in excess of 50mW); and it has no protection from interference received from any other device. Purchasers should also be aware that the FCC is currently evaluating use of wireless microphone systems, and these rules are subject to change. For more information, call the FCC at 1-888-CALL-FCC (TTY: 1-888-TELL-FCC) or visit : www.fcc.gov/cgb/consumerfacts/wirelessmic_factsheet.html

Please note that wireless frequencies are shared with other radio services. According to FCC regulations, wireless microphone operations are unprotected from interference from other licensed operations in the band. If any interference is received by any Government or non-government operation, the wireless microphone must cease operation or change frequencies. The above statement is valid only for use in the U.S.A. If you encounter slight receiving interference when the transmitter is far from the receiver (from other than an operating TV station on the same frequency), it can often be overcome by relocating the receiver to a different place, away from RF sources, e.g., TV, radio, computer, electric motors.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Changes or modifications to this equipment not expressly approved by Nady Systems may void the user's authority to operate this equipment.

Nady Systems warrants to the original consumer purchaser (U.S.A. only) that your unit is free from any defects in material or workmanship for a period of one year from the date of purchase. If any such defect is discovered within the warranty period, Nady Systems will repair or replace the unit free of charge, subject to verification of the defect or malfunction upon delivery or shipping prepaid to Nady Systems. This warranty does not apply to defects or physical damage resulting from abuse, neglect, accident, improper repair, alteration, or unreasonable use of the unit resulting in cracked or broken cases or parts, or units damaged by excessive heat, and does not apply to batteries or damage caused by leaking batteries. This warranty does not cover finish or appearance of items nor items damaged in shipment en route to Nady Systems for repair.

SERVICE INFORMATION

In the U.S.

If you are experiencing operational problems with your system, please refer to the Support page at www.nady.com or contact the Nady Service Department via e-mail to support@nady.com for assistance.

Outside the U.S.

For service or warranty matters please contact the Nady distributor in your country through the dealer/store from which you purchased this product.

DO NOT ATTEMPT TO SERVICE THIS SYSTEM BY YOURSELF AS IT CAN BE DANGEROUS AND WILL ALSO VOID THE WARRANTY.

NADY SYSTEMS

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